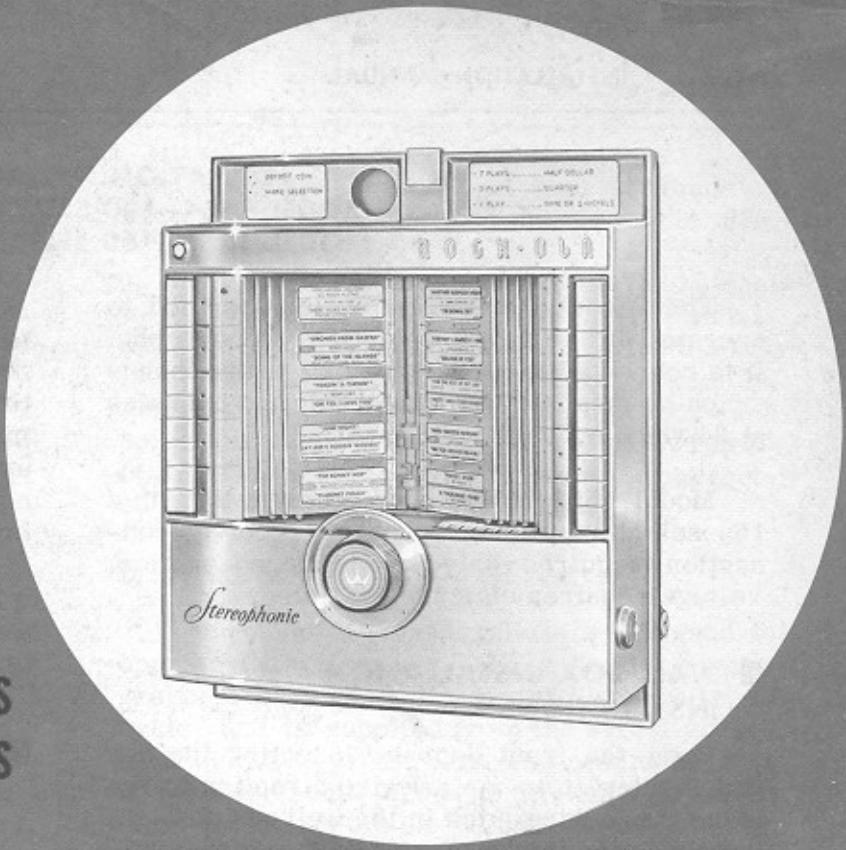


MODEL 1564-100 SELECTIONS
MODEL 1558-160 SELECTIONS

ROCK-OLA WALL BOX

SERVICE MANUAL AND PARTS LIST

ROCK-OLA
MANUFACTURING
CORPORATION
800 N. KEDZIE AVE., CHICAGO 51, ILL.

INSTALLATION INSTRUCTIONS FOR MODEL 1564–100 SELECTION WALL BOX MODEL 1558–160 SELECTION WALL BOX

The Model 1564 Wall Box is designed to operate with all 100 selection phonographs. It is connected to a receiver unit in the phonograph by means of a 4 wire cable and operates at 24 volts A.C. 60 cycle input.

Model 1558 is designed to operate with a 160 selection phonograph. The receiver connection requires only a 3 wire connection. Voltage requirements are the same.

WALL BOX INSTALLATION INSTRUCTIONS

Open the front door by inserting the key and turning it in a clockwise direction to release the locking latch in the wall box. Remove the slug rejector by merely lifting it up slightly to clear the four mounting studs from the brackets. Also, remove the cash box. This will expose the knockout holes, which are used for mounting the wall box on a bar, counter, table or wall.

NOTE: All knockout holes which are provided for mounting the wall box are opened by tapping them out firmly with a blunt punch. The two knockout holes for mounting the wall box on the wall, are located at the top left and right corners of the back casting. Mount two screws in the wall with location corresponding to the two upper holes of the wall box. Place the wall box so that the screws are in the slotted portion of each hole. Now insert a third screw into one of the two lower holes in the back casting for rigid mounting. Before tightening the screws to provide rigid fastening for the wall box, make certain that surface of the wall on which the wall box is mounted, is substantially flat. The back casting should be shimmed with wood or cardboard to provide a flat surface. A curved surface will distort the back casting, and prevent proper operation of the wall box.

All lamps are readily accessible for replacement purposes. WARNING - Burned out lamps must be replaced with #47-.15 amp. lamps only.

The cash box is located at the lower right side, and is accessible only after the front door is opened. The slug return cap is located on the lower left side.

At the Phonograph, the line switch is used to turn the wall box, off or on. If a coin is deposited with the line switch in "off" position, the coin will be lost and the customer cannot make a selection. The accumulator will add up to a maximum of twenty-six credits. It is not necessary to make a selection after each credit is established.

The Model 1551 Universal Bar Bracket is available for mounting the Wall Box on a counter, bar or table.

WALL BOX AND RECEIVER UNIT CONNECTING CABLE INSTRUCTIONS

Solder one end of the cable to the Jones plug furnished with each receiver; being sure to note the color coding of the individual wires with respect to the identifying legend stamped on the chassis at the terminal socket, so that the proper connections can be made at the wall boxes. The terminal strip in the wall box has a similar legend, except for the "common" connection, which in the wall box is a grounding lug located below the terminal block. Note that solder lugs are provided for connecting to and from the wall box. USE THESE LUGS; DO NOT CLINCH THE WIRES AROUND THE TERMINAL SCREWS AND THEN TIGHTEN AS THIS WILL RESULT IN A POOR CONNECTION AND CAUSE MALFUNCTIONING. BE SURE THAT ALL WIRES ARE POLARIZED AT THE WALL BOX AND RECEIVER UNIT, OR IMPROPER OPERATION WILL RESULT.

The wire inter-connecting cable should not be smaller than #18 gauge (for each wire) in order that the voltage drop from the phonograph to the wall boxes be kept to a minimum. Do not use excessively long lengths of cable (80 ft. max. for #18 gauge) and do not connect more than six wall boxes to any one length of cable. The 25 volt signal transformer in the Receiver Unit is capable of supplying power to twelve wall boxes. Using more than this number of boxes may result in burning out the 3 amp. fusetat on the receiver unit, or the prolonged heating of the transformer may cause it to fail.

COIN CONVERSION INSTRUCTIONS

NOTE: THE WALL BOX IS PRESET AT THE FACTORY FOR "ONE PLAY FOR 2 NICKELS OR ONE DIME, THREE PLAYS FOR A QUARTER, AND SEVEN PLAYS FOR A HALF-DOLLAR."

SEE PHONOGRAPH MANUAL FOR PRICE OPTIONS.

ACCUMULATOR ASSEMBLY

The accumulator assembly is designed to establish a maximum of twenty-six credits, and it is not necessary to make a selection after each coin deposited.

The 5¢ ratchet is located nearest the base plate, the 10¢-50¢ ratchet is in the center, and the 25¢ ratchet is nearest the top frame plate. The stud which is riveted to the 5¢ ratchet extends through the 10¢-50¢ and 25¢ ratchets. When the electromagnets are energized, they are released in the same manner as the 5¢ ratchet. The stud which is riveted to the 5¢ ratchet, permits the 10¢-50¢ and 25¢ ratchet to rotate a certain number of teeth, depending on the denomination of the deposited coin.

A price option switch is mounted at the rear, allowing the accumulator to be set for 5¢-10¢-25¢ play, or 10¢-25¢-50¢ play by moving the slide switch in the direction indicated on the legend above the slide switch. When the slide switch is in the 10¢-25¢-50¢ position, a 10¢ coin will operate the ratchet nearest the base plate; a 25¢ coin operates the outer ratchet and a 50¢ coin operates the center ratchet. When the slide switch is in the 5¢-10¢-25¢ position, a 5¢ coin operates the ratchet nearest the base plate; a 10¢ coin operates the center ratchet and a 25¢ coin operates the outer ratchet.

The center and outer ratchets have adjustment wafers. Depending upon the play combination desired, it will be necessary to change the settings of either one or both of the adjustment wafers. To do so, insert a pointed tool into the ear of the wafer, raising the wafer pin out of the hole and moving it until it drops into the proper play hole in the ratchet wheel. (Complete coin conversion instructions are outlined in the "Installation Instruction" section in the phonograph manual)

The gram pressure of both accumulator switches is 30 grams, and the air gap is .015.

Credits are removed from the 5¢ ratchet by the accumulator lever assembly, which is actuated by the cam cluster. The pawl which is riveted to the accumulator lever assembly, moves the 5¢ ratchet back one tooth for each selection made. If the pawl moves the 5¢ ratchet back two teeth, the condition can be corrected by adjusting the tail of the pawl.

WALL BOX CYCLE OF OPERATION

The Model 1654 Wall Box is designed to operate with a Rock-Ola 100 selection phonograph. This wall box operates on 24 volts, 60 cycle, and is supplied from the signal generator in the receiver unit. The program lights and the select lite are type 47 lamps, operated from the 6 volt tap on the auto transformer in the wall box.

A four wire system is required to supply power to the wall box. Two of the four wires supply power to the gear motor, auto transformer and lock-out relay. A third wire is a over-lapping lock-out circuit from the receiver to the lock-out relay. The fourth wire in conjunction with one of the power circuit wires constitutes the signal circuit that keys the Receiver Unit.

Model 1558 is used on a Rock-Ola 160 selection phonograph, the lock-out circuit is not used, thereby making it a three wire system.

The operation of the system requires intermittent pulsing of the pulse relays in the receiver unit and is accomplished when the grounded contact wiper arm on the wall box gear motor passes over connected contacts on the contact biscuit assembly. A circuit diagram of both wall boxes is shown on the fold-out page.

The operating elements of the wall box consist of the push button switches, contact wiper arm, gear motor, lock-out relay, (for 100 selection only) and the control switches, namely, the motor switch and the accumulator switch. Pressed on the shaft of the gear motor is the cam cluster, consisting of three cams which are used to perform operations as follows: 1. The bottom cam operates the push button switch lock bar. 2. The center cam operates

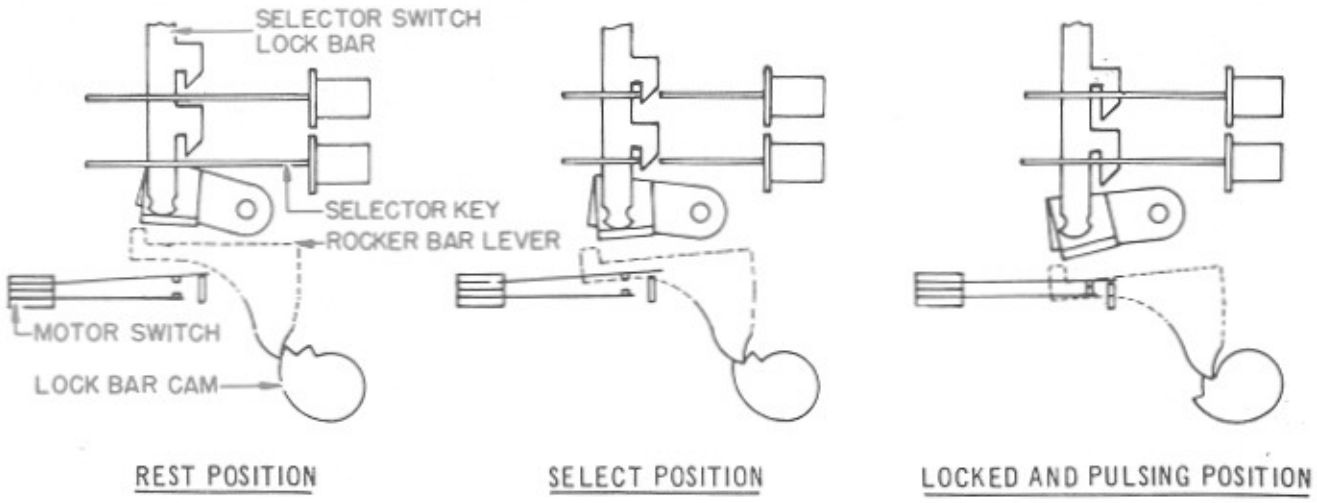


Fig. 7

the motor switch. 3. The top cam operates the accumulator assembly.

There are three important positions of the cam cluster for each cycle, namely, the Rest Position, Select Position, and the Locked and Pulsing position. These positions are shown in Fig. 7.

At the Rest Position, in which no credits are established, the selector buttons are free to move in and out, because the lock bar cam is holding the selector switch lock bar up, thereby disengaging the selector keys. Likewise, the motor switch is held open by the motor switch cam.

In the four wire system, (refer to schematic on foldout page) when a credit is established by a deposited coin, the circuit to the gear motor is completed through the accumulator switch contact "D" and the grounded contact wiper arm "H", energizing the gear motor "J". The contact wiper arm is then rotated away from the contact plate, thereby breaking the circuit to the gear motor. This is the Select Position. The rocker bar lever through the action of the lock bar cam on the cam cluster has lowered to the Select Position, moving the selector switch lock bar downward. This results in the selector button locking immediately upon being pressed.

As a pushbutton "G" is pressed, the circuit to the gear motor is again closed, by the means of the second accumulator switch "E", thru lock-out relay contact "F" and through the center contacts of the pushbutton switch. The motor through its train of gears begins to revolve, causing the motor switch cam on the cam cluster to close the circuit of the gear motor through the carry-over switch "C", by means of the switch lever. Carry-over switch "B" completes a circuit to every wall box lock-out relay "A" in the system. This condition "holds" all wall box selections in abeyance, except the wall box that is being operated, until the receiver has completed its cycle. In a three wire system, the lock-out circuit is not used. All other electrical conditions prevail.

Simultaneously, the lock bar drops to its lower position. This is the Locked and Pulse position. As the contact wiper arm rotates, a train of pulses corresponding to the selection made, are transmitted to the receiver unit. During the period of the pulse cycle, the accumulator cam of the cam cluster, operates the accumulator lever assembly which removes a credit from the accumulator. In completing its cycle, the lock bar cam on the cam cluster allows the selector key to be released through the action of the rocker bar lever and selector switch lock bar. The switch lever, through the action of the motor switch cam of the cluster opens the circuit to the gear motor by means of the motor switch, which completes the cycle. If only one credit was established, the short contact wiper arm will come to rest about 1/8" before it reaches the edge of the lower left side of the "U" portion of the brass contact plate on the contact biscuit assembly and the cam cluster will assume its Rest Position. On

the other hand, if more than one credit was established, the contact wiper arm will not rest on the contact plate, but will move past it and come to rest at the Select Position. The cycle will then again be repeated when a selector button is pressed.

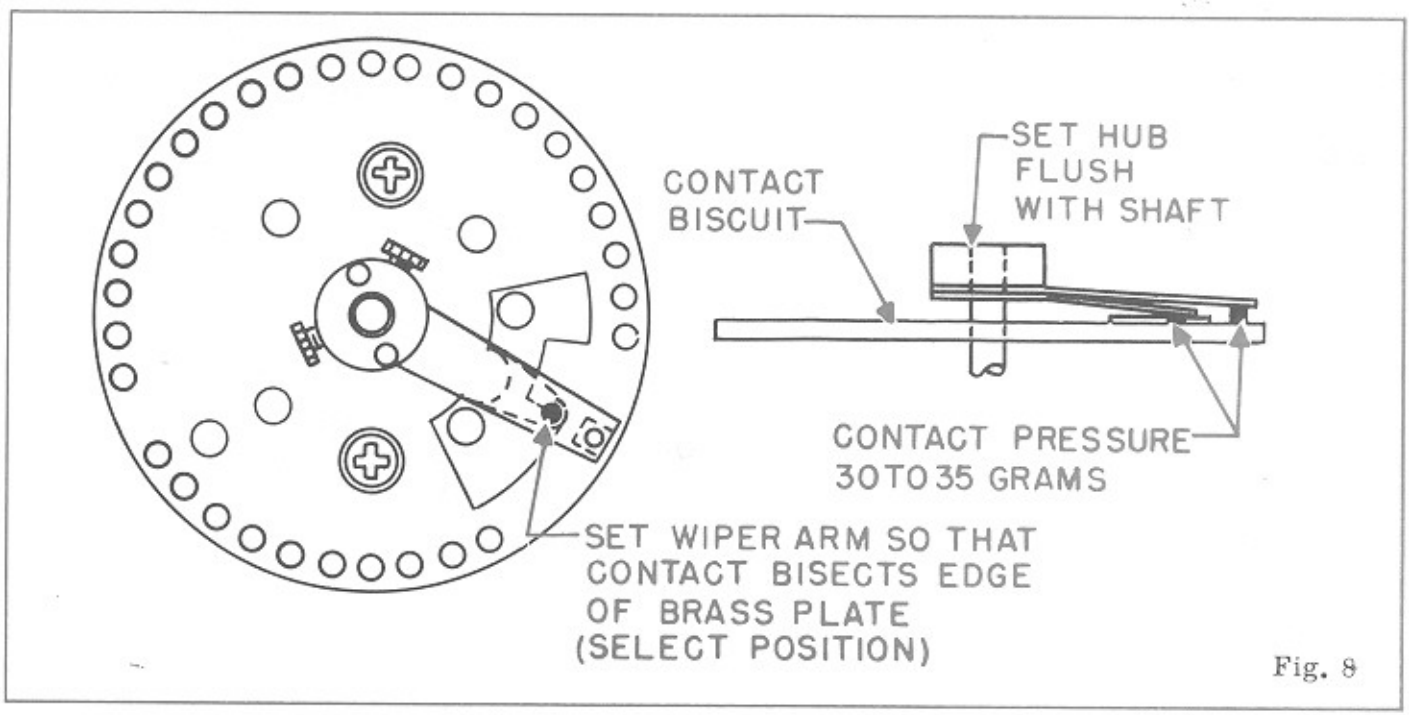


Fig. 8

GEAR MOTOR

The gear motor is designed to operate at a normal speed of 20 revolutions per minute. The acceptable speed tolerances are between 19 and 21 revolutions per minute. If the motor speed is slow, or fast, erratic selection will result. If there are no binds in the motor, and the gear train is free from dirt or foreign material, the gear motor must be replaced. Because of its construction, individual parts cannot be replaced.

The cam cluster of the gear motor should be lubricated with #105 Lubriplate, and the shaft bearings with a drop of S.A.E. 10 motor oil. Never lubricate the motor clutch mechanism.

The contacts of the contact disc assembly must not be lubricated. A lint-free cloth, saturated with carbon tetra-chloride can be used to clean the contact biscuit disc.

The #105 Lubriplate can also be used to lubricate the pivot points of the rocker bar lever, and the switch lever. To reduce friction, use #105 Lubriplate at the point where the rocker bar lever engages the selector switch lock bar.

If it becomes necessary to re-position the contact wiper arm on the contact biscuit assembly, the following procedure is to be followed:

1. Turn the gear motor manually until the rocker bar lever falls into the first notch of the cam farthest away from the contact biscuit assembly. (See "Select Position" of Fig. 7.)

2. Set wiper arm on the gear motor shaft so that the center of the contact of the short wiper arm rests on the edge of the lower left side of the "U" position of the contact plate. Set hub flush with shaft. (See Fig. 8.)

3. Tighten the set screws in the collar of the contact wiper arm, and adjust the contact wiper arm pressure to approximately 40 grams on both contacts. (See Fig. 8.)

4. The motor switch pressure is 35 grams minimum. The switch should be adjusted to open when the center of the contact of the short wiper arm comes to rest about 1/8" before it reaches the edge of the lower left side of the "U" position of the brass contact plate. (See Fig. 8.)

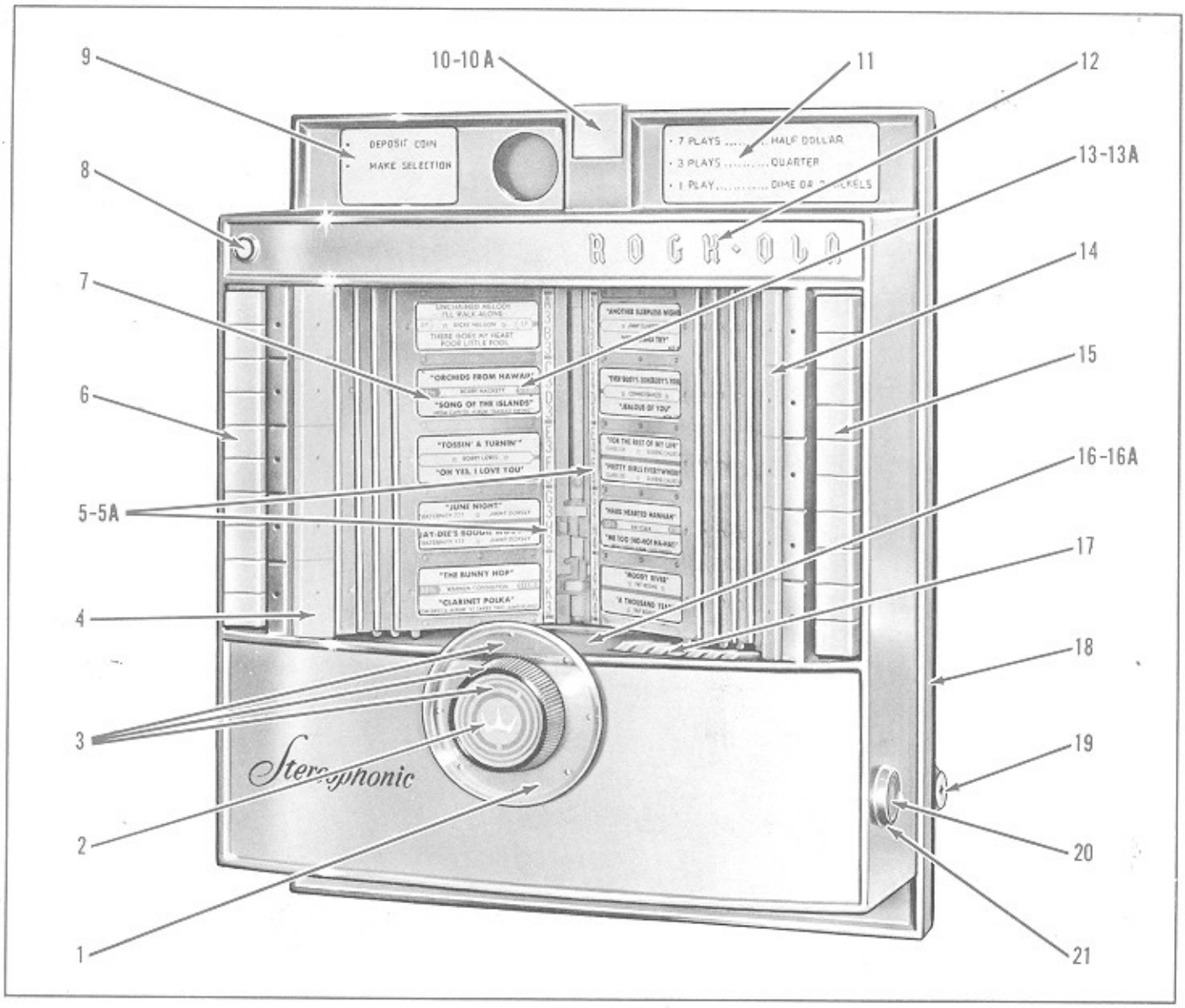
PROGRAM LEAF SWITCHES

There is one section of program leaf switches. Viewing the switch levers from the front and lower right hand side of the Wall Box, the 100 selection has four switch levers and the 160 selection has seven.

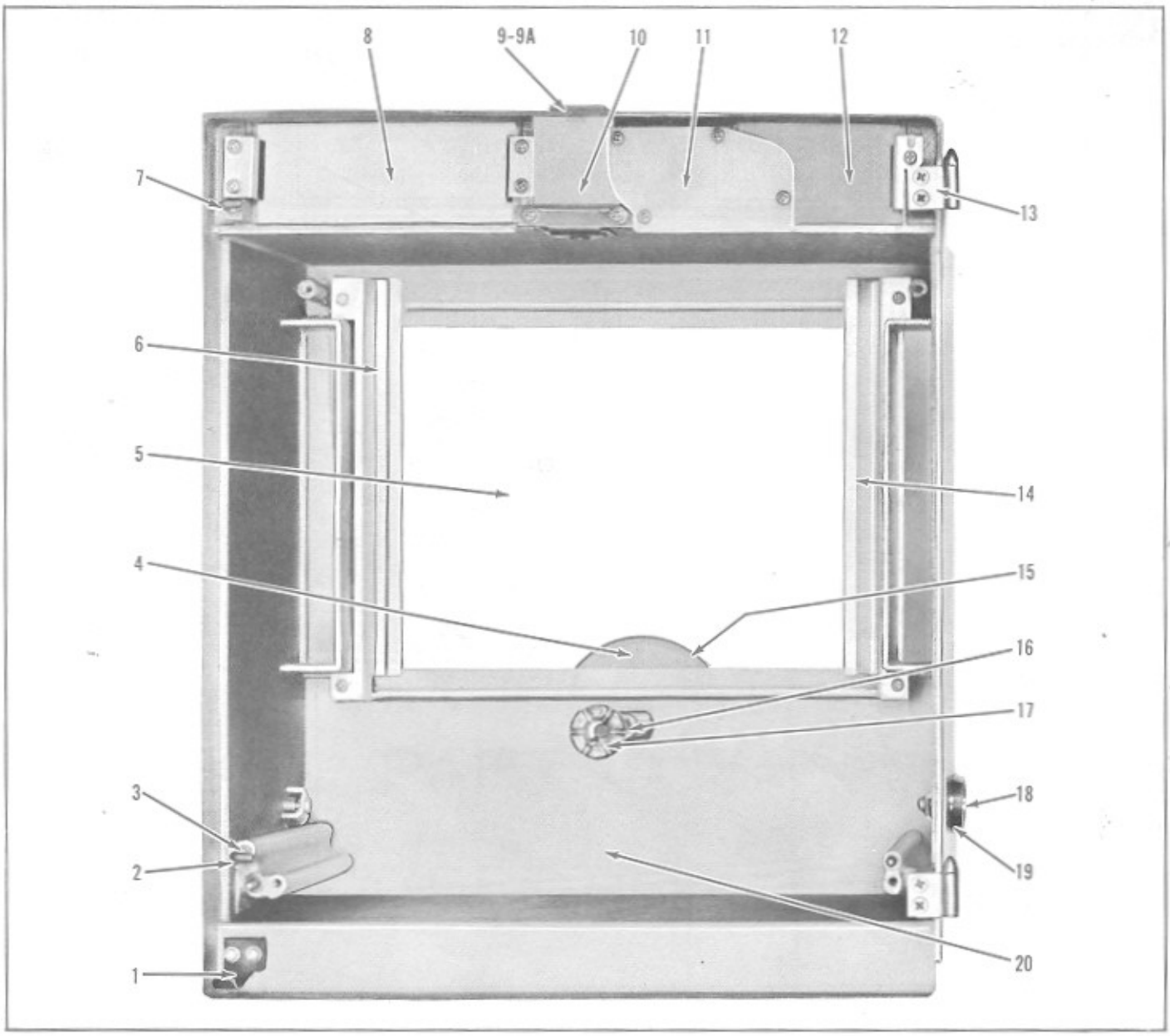
With all pages rotated to the left, the switches are normally closed. As the program leaf is turned, a small protrusion on the leaf strikes a particular switch lever opening the switch.

The remaining closed switches complete circuits to the group contacts on the contact biscuit disc. (SEE SCHEMATIC WIRING DIAGRAM)

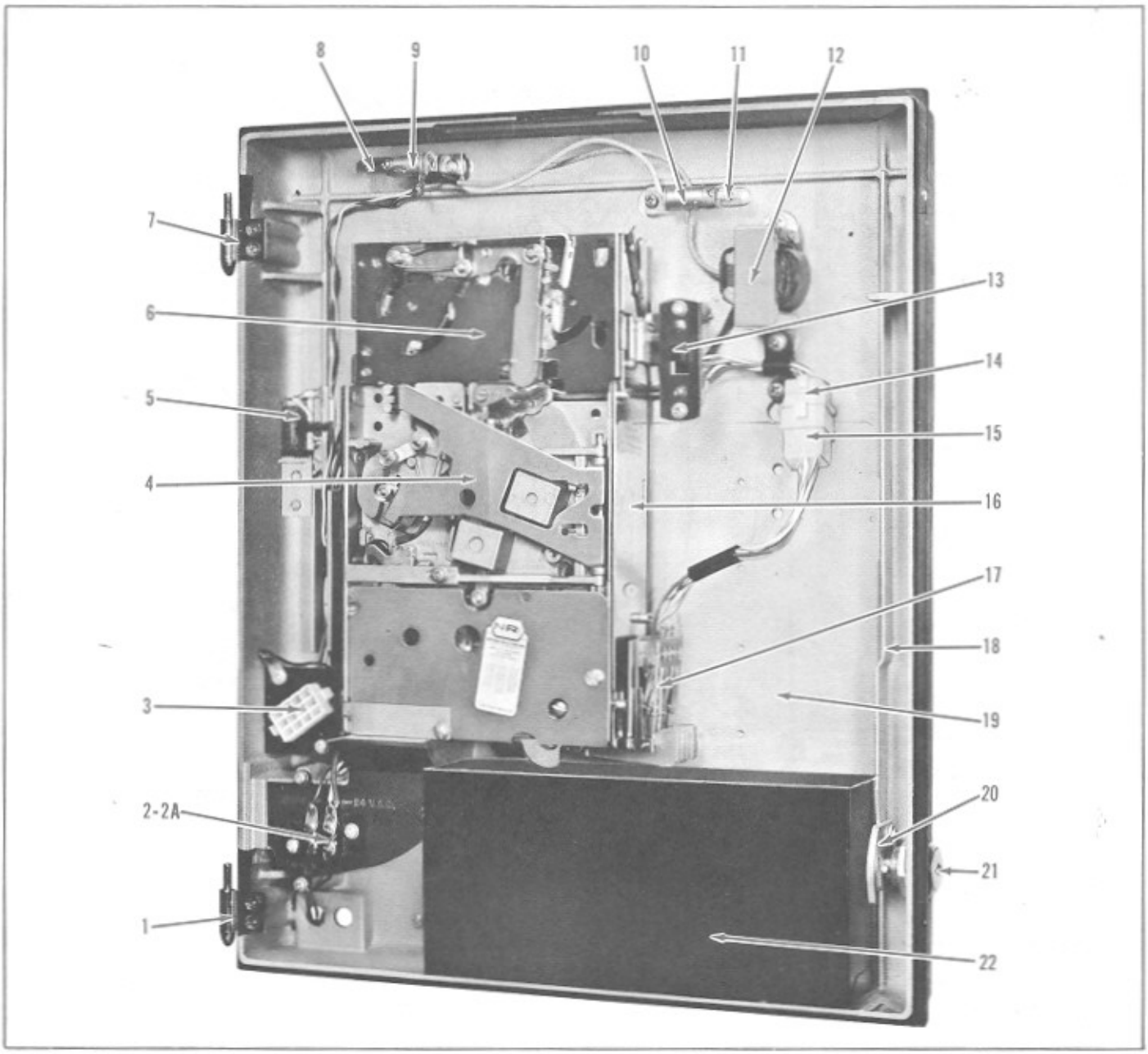
PARTS LIST SECTION



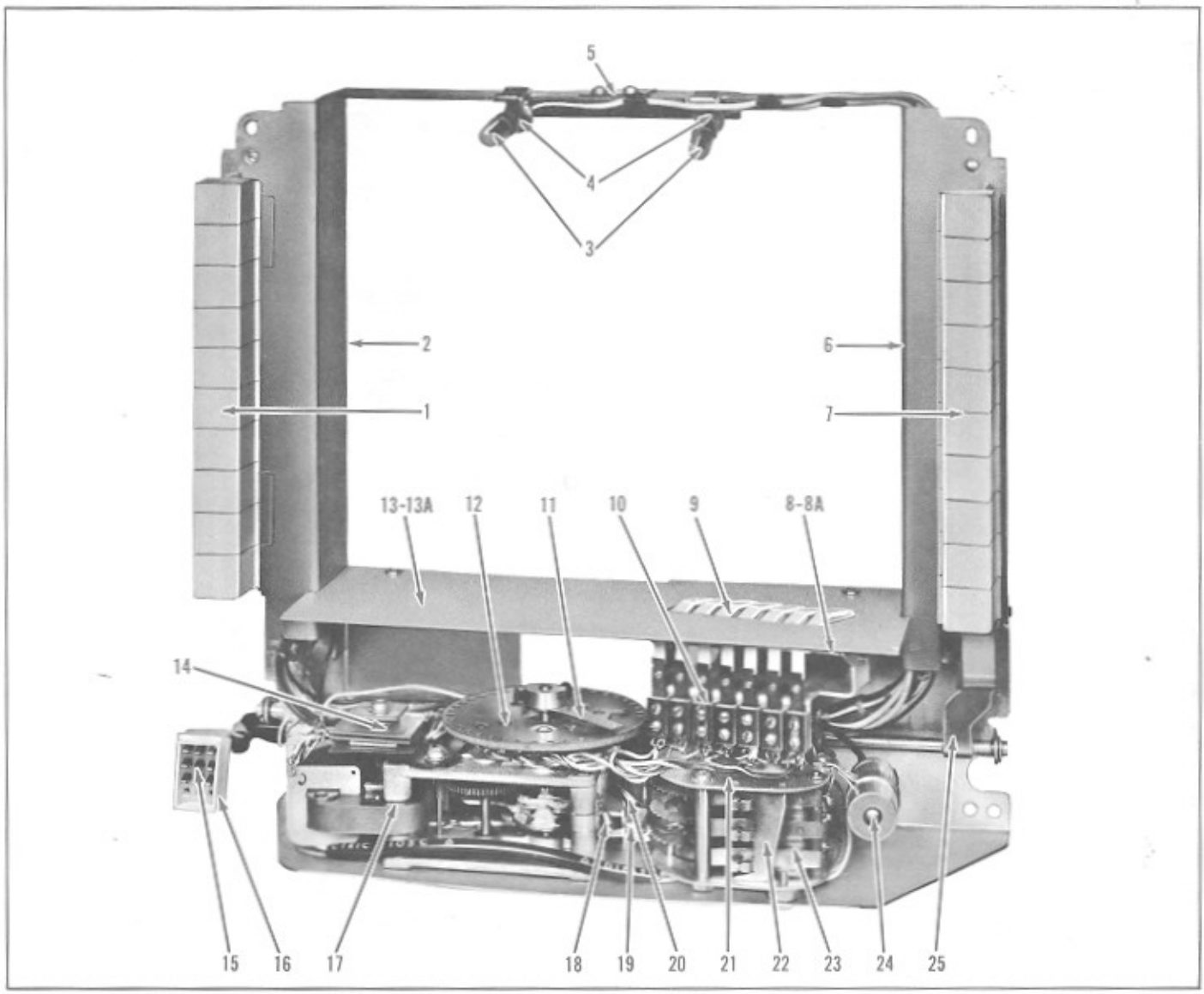
Item	Part No.	Description	Item	Part No.	Description
1	37052	Program Knob Disc	13	37111-A	Program Holder Assembly (160 Selection)
2	37178	Program Knob Insert			
3	37104-A	Program Knob and Disc Assembly	13-A	37158-A	Program Holder Assembly (100 Selection)
4	37003	Glass Extrusion (L.H.)			
5	37087	Index Tab (160 Selection)	14	37002	Glass Extrusion (R.H.)
5A	37162	Index Tab (100 Selection)	15	37048	Key Switch Button
6	37048	Key Switch Button	16	37110-A	Bottom Dress Plate Assembly (160 Selection)
7	37050	Wall Box Window			
8	37176	Top Emblem Insert	16A	37157-A	Bottom Dress Plate Assembly (100 Selection)
9	37082	Select Window			
10	37058	Reject Button w/shaft	17	37015	Switch Lever
10A	37054	Reject Button Return Spring (Not Shown)	18	37001	Wall Box Back
			19	ST-7416	Lock and Key
11	37181	Pricing Window (1-3-7)	20	37177	Side Emblem Insert
12	37000	Wall Box Front	21	37009	Side Emblem



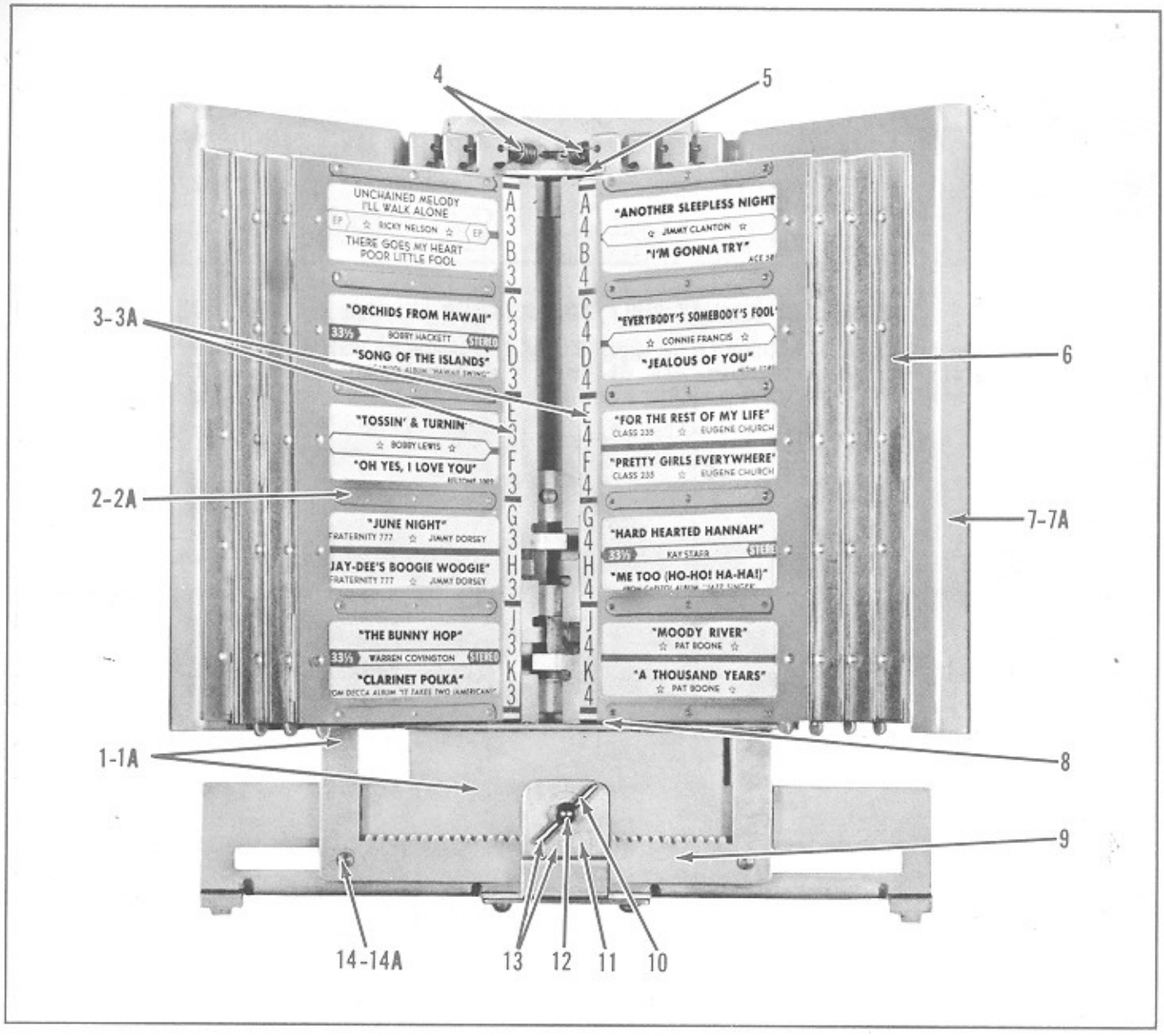
Item	Part No.	Description	Item	Part No.	Description
1	37008	Door Guide Bracket	11	37007	Coin Chute Back
2	14729	Lock Pin	12	37082	Select Window
3	ST-3409	8-32 Hex Nut	13	ST-5278	Wall Box Hinge (Male)
4	37052	Program Knob Disc	14	37003	Glass Extrusion (L.H.)
5	37050	Wall Box Window	15	37104-A	Program Knob and Disc Assembly
6	37002	Glass Extrusion (R.H.)			
7	14729	Lock Pin	16	37057	Clutch Compression Spring
8	37181	Pricing Window (1-3-7)	17	37017	Front Clutch
9	37058	Reject Button w/Shaft	18	37177	Side Emblem Insert
9A	37054	Reject Button Return Spring (Not Shown)	19	37009	Side Emblem
			20	37000	Wall Box Front
10	37103-A	Reject Button Mounting Bracket Assembly			



Item	Part No.	Description	Item	Part No.	Description
1	ST-5278	Wall Box Hinge (Female)	12	14814-1	Wall Box Transformer
2	14217	Terminal Block (160 Selection)	13	14819-A	Slide Switch Assembly
2A	35637	Terminal Block (100 Selection)	14	33637	Amp Lok Plug – 6 Circuit
3	14985-A	Amp Lok Plug and Bracket Assembly	15	33640	Amp Lok Cap – 6 Circuit
4	31317	5¢ - 10¢ - 25¢ Slug Rejector	16	31319	Slug Rejector Housing
5	14995	Lockout Relay (100 Selection-Only)	17	37075	Coin Switch
6	31318	50¢ Scavenger Unit	18	37093-A	Lock Bar Riveting Assembly
7	ST-5278	Wall Box Hinge (Female)	19	37001	Wall Box Back
8	ST-3072	#47 G.E. Bulb	20	37033	Lock Latch
9	37172	Select Light Socket	21	ST-7416	Lock and Keys
10	37171	Pricing Light Socket	22	37064	Cash Box
11	ST-3072	#47 G.E. Bulb			

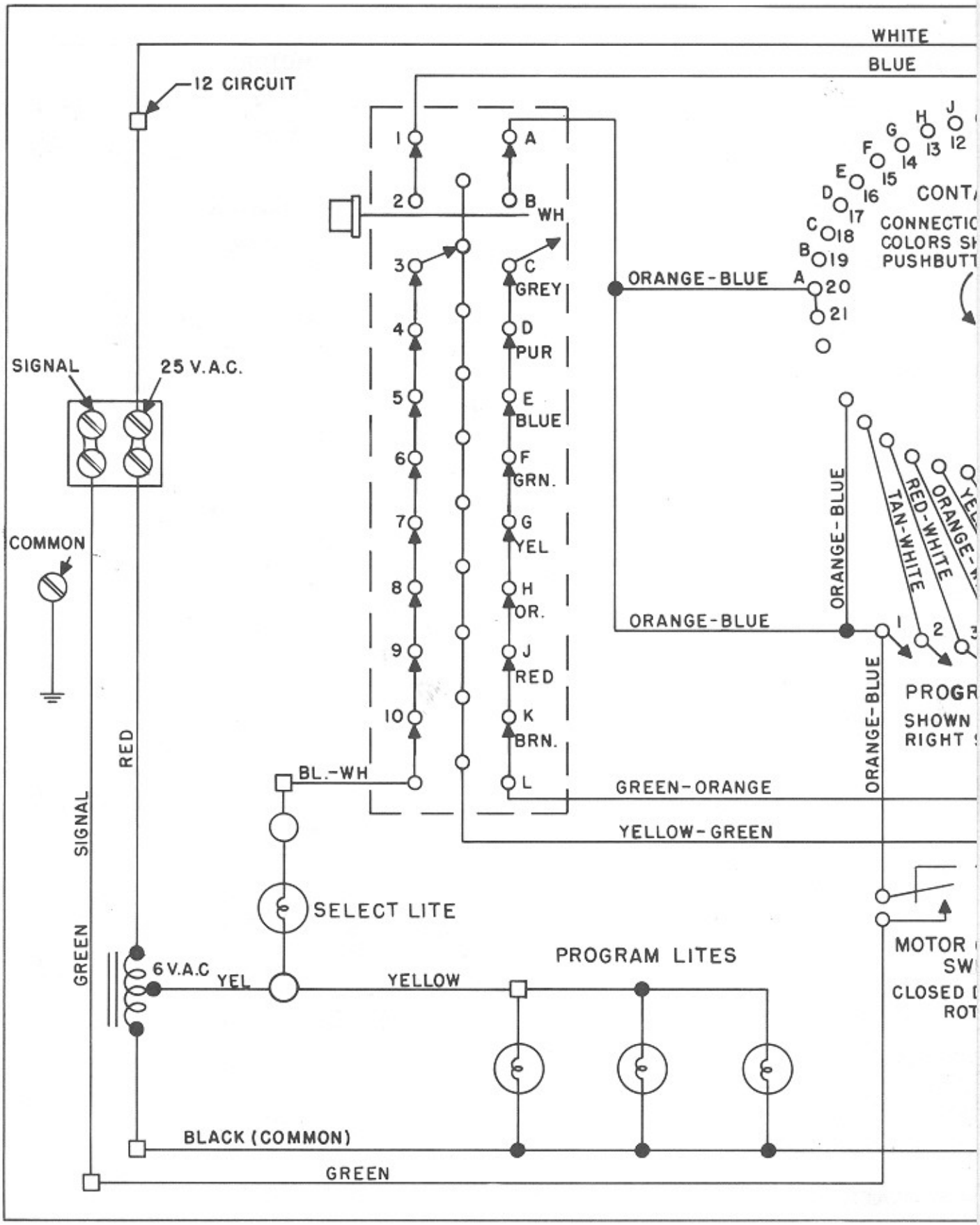


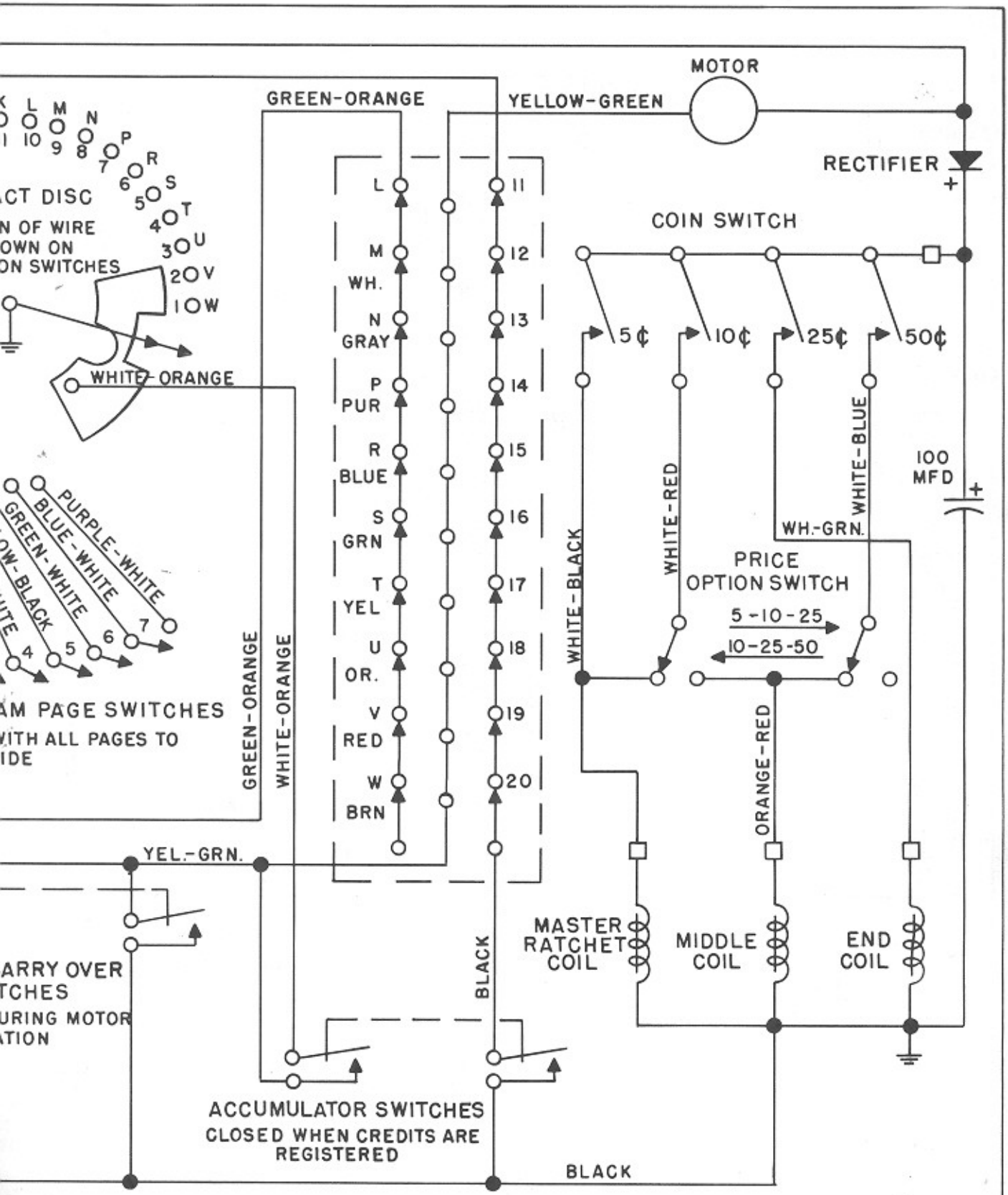
Item	Part No.	Description	Item	Part No.	Description
1	37048	Key Switch Button	13	37157-A	Bottom Plate Assembly (100 Selection)
2	37047	Selector Switch (L.H.) (Not Shown)	13A	37110-A	Bottom Plate Assembly (160 Selection)
3	ST-3072	#47 G.E. Bulb			
4	37173	Program Light Socket	14	14572	Selenium Rectifier
5	37073	Program Lock Spring	15	34118	Amp Lok Contact – Solder Type
6	37046	Selector Switch (R.H.) (Not Shown)	16	35304	Amp Lok Cap – 12 Circuit
7	37048	Key Switch Button	17	37088	Gear Motor w/Cams
8	37163	Switch Lever Spacer (100 Selection)	18	14276	Accumulator Pawl Spring
			19	14308-A	Accumulator Lever Assembly
8A	37006	Switch Lever Spacer (160 Selection)	20	14275	Accumulator Lever Spring
			21	31200-1A	Accumulator Assembly
9	37015	Switch Lever	22	14567	Spring Anchor
10	37089	Page Switch	23	14011	Coil-Electromagnet
11	14795	Wiper Arm	24	14206	Wall Box Capacitor
12	14838-A	Biscuit Assembly	25	37126-A	Rocker Arm and Shaft Assembly



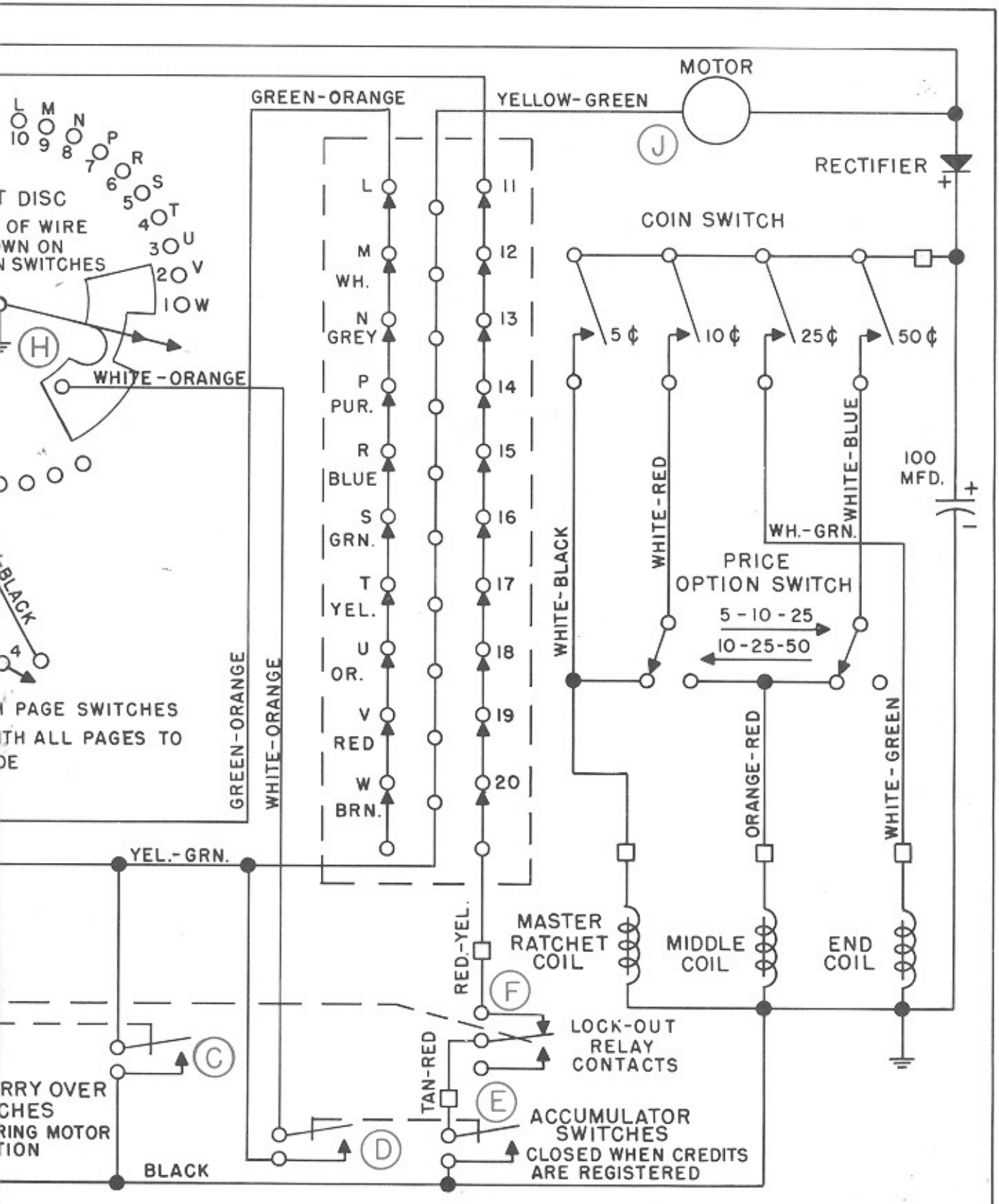
■ No. 37158-A PROGRAM HOLDER ASSEMBLY (100 SELECTION)
No. 37111-A PROGRAM HOLDER ASSEMBLY (160 SELECTION)

Item	Part No.	Description	Item	Part No.	Description
1	37159-A	Back Plate and Slider Assembly (100)	7	37160-A	Back Plate Assembly – Only (100)
1A	37112-A	Back Plate and Slider Assembly (160)	7A	37113-A	Back Plate Assembly – Only (160)
2	37114-A	Program Leaf Assembly (Even)	8	37029	Page Support Bracket
2A	37115-A	Program Leaf Assembly (Odd)	9	37253-A	Slider Assembly
3	37162	Index Tab (100)	10	37074	Clutch Engagement Pin
3A	37087	Index Tab (160)	11	37028	Guide Bracket
4	37031	Page Spring	12	37024	Slider Gear and Shaft
5	37030	Upper Page Bracket	13	37197-A	Slider Gear and Bracket Assembly
6	37161-A	Program Spacer Plate Assembly (100)	14	37025	Slider Stud
			14A	37026	Slider Spacer (Not Shown)

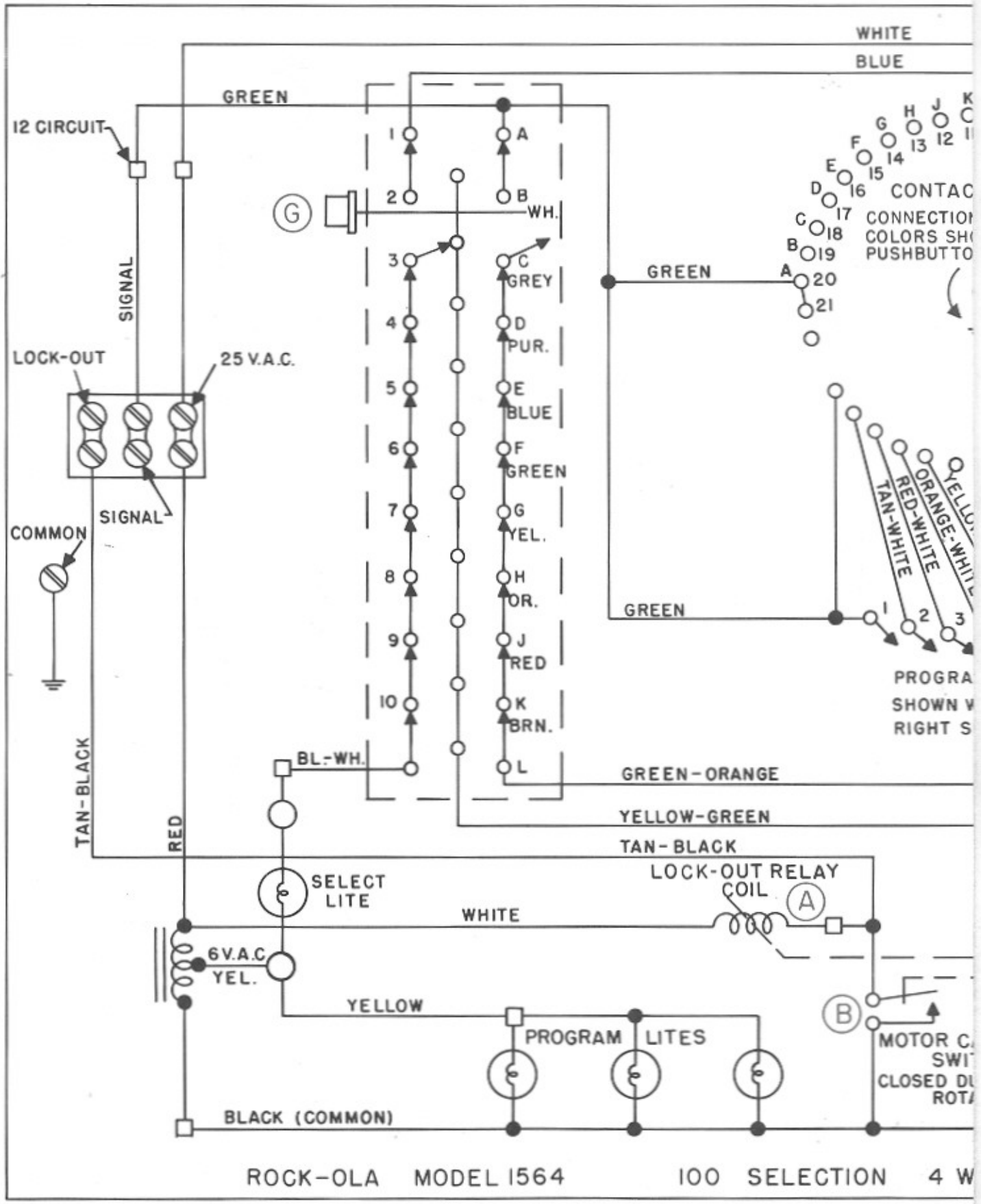

WHITE
BLUE
12 CIRCUIT
1
2
3
4
5
6
7
8
9
10
A
B WH
C GREY
D PUR
E BLUE
F GRN.
G YEL
H OR.
J RED
K BRN.
L
ORANGE-BLUE
20
21
SIGNAL
25 V.A.C.
COMMON
ORANGE-BLUE
RED-WHITE
TAN-WHITE
ORANGE-BLUE
ORANGE-BLUE
BL.-WH
GREEN-ORANGE
YELLOW-GREEN
SELECT LITE
PROGRAM LITES
SIGNAL
RED
GREEN
6 V.A.C
YEL
YELLOW
BLACK (COMMON)
GREEN



ROCK-OLA MODEL 1558 160 SELECTION DOMESTIC
3 WIRE WALL BOX SCHEMATIC DIAGRAM



RE WALL BOX SCHEMATIC DIAGRAM



ROCK-OLA MODEL 1564 100 SELECTION 4 W